

Status of the Claims

Claims 1-37. (Canceled)

Claim 38. (Previously Presented) A stent for holding open a blood vessel comprising:

- a. a first loop containing section, the first loop containing section arranged generally in the circumferential direction, the loops in said first loop containing section occurring at a first frequency;
- b. a second loop containing section, the second loop containing section arranged generally in the circumferential direction, the loops in said second loop containing section also occurring at said first frequency; and
- c. a third loop containing section the third loop containing section, the loops in said third loop containing section occurring at a second frequency that is higher than said first frequency, disposed in the generally circumferential space between said first and second loop containing sections and alternately joined to said first and second loop containing sections,
- d. wherein the loops in said first, second and third loop containing sections are disposed and adapted to cooperate so that, when the expanded stent is in a curved lumen, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially, and
- e. the third loop containing section compensates for foreshortening of the first and second loop containing sections when the stent is expanded such that the widths of the first and second loop containing sections are smaller expanded than compressed, and the width of the third loop containing section is greater expanded than compressed.

Claim 39. (Previously Presented) A stent according to claim 38 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 40. (Previously Presented) A stent according to claim 38 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a

more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 41. (Previously Presented) A stent for widening a vessel in the human body comprising:

- a. a plurality of first circumferential bands containing a pattern of loops at a first frequency;
- b. a plurality of second circumferential bands containing a pattern of loops at a second frequency higher than said first frequency, alternating with said first circumferential bands and periodically coupled thereto to form cells,
- c. wherein loops in said bands are disposed and adapted to cooperate so that, when the expanded stent is in a curved lumen, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially, and
- d. the second circumferential bands compensate for foreshortening of the first circumferential bands when the stent is expanded such that the widths of the first circumferential bands are smaller expanded than compressed, and the widths of the second circumferential bands are greater expanded than compressed.

Claim 42. (Previously Presented) A stent according to claim 41 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 43. (Previously Presented) A stent according to claim 40 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 44. (Previously Presented) A stent for holding open a blood vessel formed of a plurality of triangular cells, each triangular cell comprising:

- a. a first loop containing section, the first loop containing section arranged generally

in the circumferential direction;

b. a second loop containing section joined to the first loop containing section at a first junction point; and

c. a third loop containing section joined to the first loop containing section at a second junction point and joined to the second loop containing section at a third junction point,

d. wherein loops in said cells are disposed and adapted to cooperate so that, when the expanded stent is in a curved vessel, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially, and

e. the third loop containing section compensates for foreshortening of the first and second loop containing sections when the stent is expanded such that the widths of the first and second loop containing sections are smaller expanded than compressed, and the width of the third loop containing section is greater expanded than compressed.

Claim 45. (Previously Presented) A stent according to claim 44 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 46. (Previously Presented) A stent according to claim 44 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 47. (Previously Presented) A stent for widening a vessel in the human body comprising:

a. a plurality of first meander patterns;

b. a plurality of second meander patterns intertwined with the first meander patterns to form triangular cells, said first meander patterns and said second meander patterns disposed and adapted to cooperate so that after expansion of said stent, when said stent is

dispose in a curved vessel, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially, and

c. the second meander patterns compensate for foreshortening of the first meander patterns when the stent is expanded such that the widths of the first meander patterns are smaller expanded than compressed, and the width of the second meander patterns are greater expanded than compressed.

Claim 48. (Previously Presented) A stent according to claim 47 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 49. (Previously Presented) A stent according to claim 47 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 50. (Previously Presented) A multicellular stent for holding open a lumen, comprising:

- a. a plurality of even and odd vertical meander patterns, the odd vertical meander patterns being located between every two even vertical meander patterns and being out of phase with the even vertical meander patterns,
- b. a plurality of even and odd horizontal meander patterns, the odd horizontal meander patterns being located between every two even horizontal meander patterns,
- c. wherein the vertical meander patterns are intertwined with the horizontal meander patterns to form a plurality of triangular cells,
- d. wherein said horizontal meander patterns and said vertical meander patterns are disposed and adapted to cooperate so that after expansion of said stent, when said stent is disposed in a curved lumen, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially, and

e. said horizontal meander patterns and said vertical meander patterns form a high and a low frequency loop sections, wherein the high frequency loop section compensates for foreshortening of the low frequency loop section when the stent is expanded such that width of the low frequency loop section is smaller when expanded than compressed and width of the higher frequency loop section is larger when expanded than compressed.

Claim 51. (Previously Presented) A stent according to claim 50 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 52. (Previously Presented) A stent according to claim 50 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 53. (Previously Presented) An expandable stent comprising a plurality of enclosed flexible spaces, each of the plurality of enclosed flexible spaces including:

- a) a first member having a first end and a second end;
- b) a second member having a first end and a second end;
- c) a third member having a first end and a second end;
- d) a fourth member having a first end and a second end; the first end of the first member communicating with the first end of the second member, the second end of the second member communicating with the second end of the third member, and the first end of the third member communicating with the first end of the fourth member;
- e) the first member and the second member with the curved portion at their ends forming a first loop;
- f) the third member and the fourth member with the curved portion at their ends forming a second loop;
- g) a fifth member having a first end and a second end;
- h) a sixth member having a first end and a second end;

- i) a seventh member having a first end and a second end;
- j) an eighth member having a first end and a second end;
- k) a ninth member having a first end and a second end; and
- l) a tenth member having a first end and a second end, the first end of the fifth member communicating with the second end of the first member, the second end of the fifth member communicating with the second end of the sixth member, the first end of the sixth member communicating with the first end of the seventh member, the second end of the seventh member communicating with the second end of the eighth member, the first end of the eighth member communicating with the first end of the ninth member, the second end of the ninth member communicating with the second end of the tenth member, and the first end of the of the tenth member communicating with the second end of the fourth member;
- m) the fifth member and the sixth member with the curved portion at their ends forming a third loop;
- n) the seventh member and the eighth member with the curved portion at their ends forming a fourth loop; and
- o) the ninth member and the tenth member with the curved portion at their ends forming a fifth loop, wherein, when the expanded stent is in a curved lumen, cells on the outside of the curve at communication points of the first and fifth and fourth and tenth members, the cell opens up increasing the length of the cell and at each of the first through fifth loops, the adjoining members come closer to each other, to cause the cell to become narrower circumferentially and compensating for the increase in length, whereas cells on the outside of the curve at communication points of the first and fifth and fourth and tenth members, the cell closes down decreasing the length of the cell and at each of the first through fifth loops, the adjoining members move apart, to cause the cell to become wider circumferentially and compensate for the decrease in length, and
the fifth through tenth members compensate for foreshortening of the first through fourth members when the stent is expanded such that width of the first through fourth members is smaller when expanded than compressed and width of the fifth through tenth members is larger when expanded than compressed.

Claim 54. (Previously Presented) A stent according to claim 53 wherein the compensation which occurs on the outside of the curve and on the inside of the curve results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

Claim 55. (Previously Presented) A stent according to claim 53 wherein the compensation which occurs on the outside of the curve and on the inside of the curve results in a more constant stent area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.